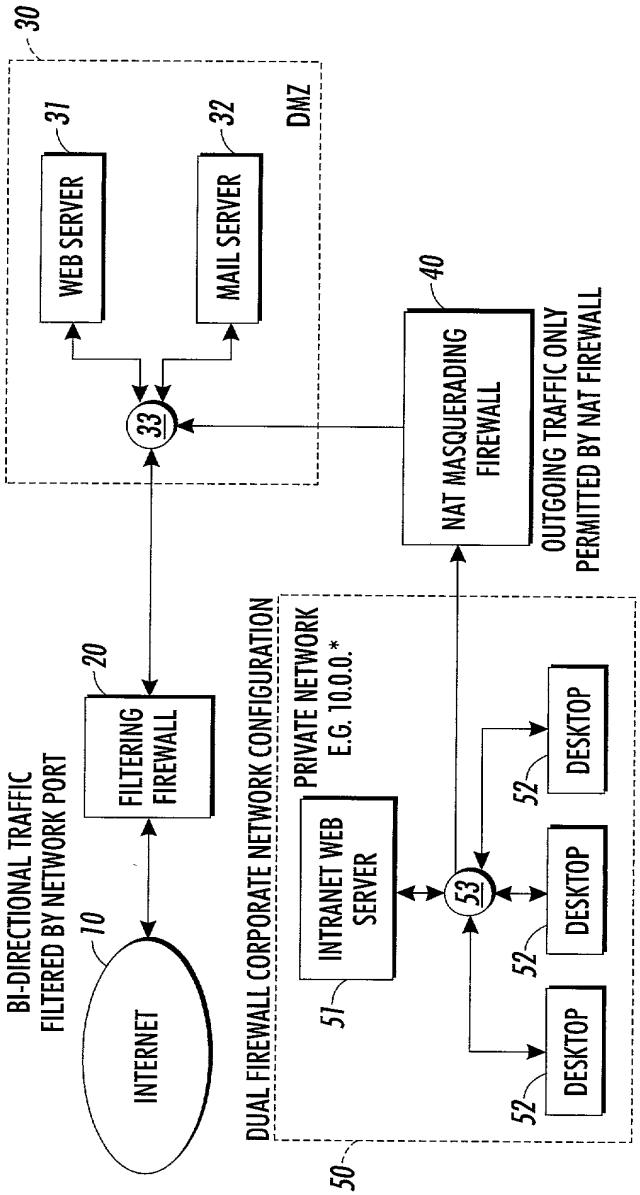

30
DMZ
31
WEB SERVER
32
MAIL SERVER
33
40
NAT MASQUERADING FIREWALL
OUTGOING TRAFFIC ONLY PERMITTED BY NAT FIREWALL
BI-DIRECTIONAL TRAFFIC FILTERED BY NETWORK PORT
20
FILTERING FIREWALL
10
INTERNET
DUAL FIREWALL CORPORATE NETWORK CONFIGURATION
PRIVATE NETWORK E.G. 10.0.0.*
INTRANET WEB SERVER
51
53
52
DESKTOP
52
DESKTOP
52
DESKTOP
50

FIG. 1

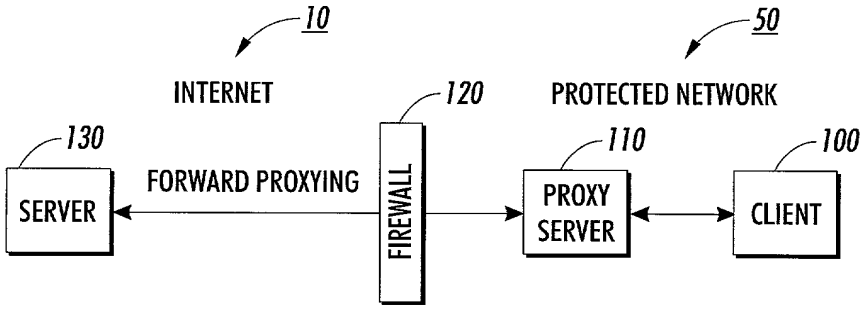

10
50
INTERNET
120
PROTECTED NETWORK
130
110
100
SERVER
FORWARD PROXYING
FIREWALL
PROXY SERVER
CLIENT

FIG. 2A

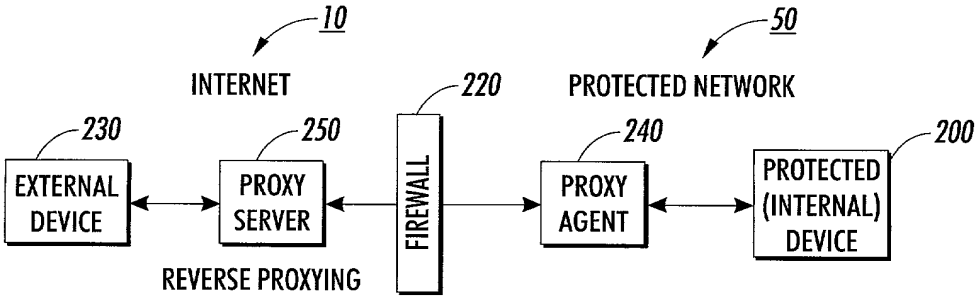

10
50
INTERNET
220
PROTECTED NETWORK
230
250
240
200
EXTERNAL DEVICE
PROXY SERVER
FIREWALL
PROXY AGENT
PROTECTED (INTERNAL) DEVICE
REVERSE PROXYING

FIG. 2B

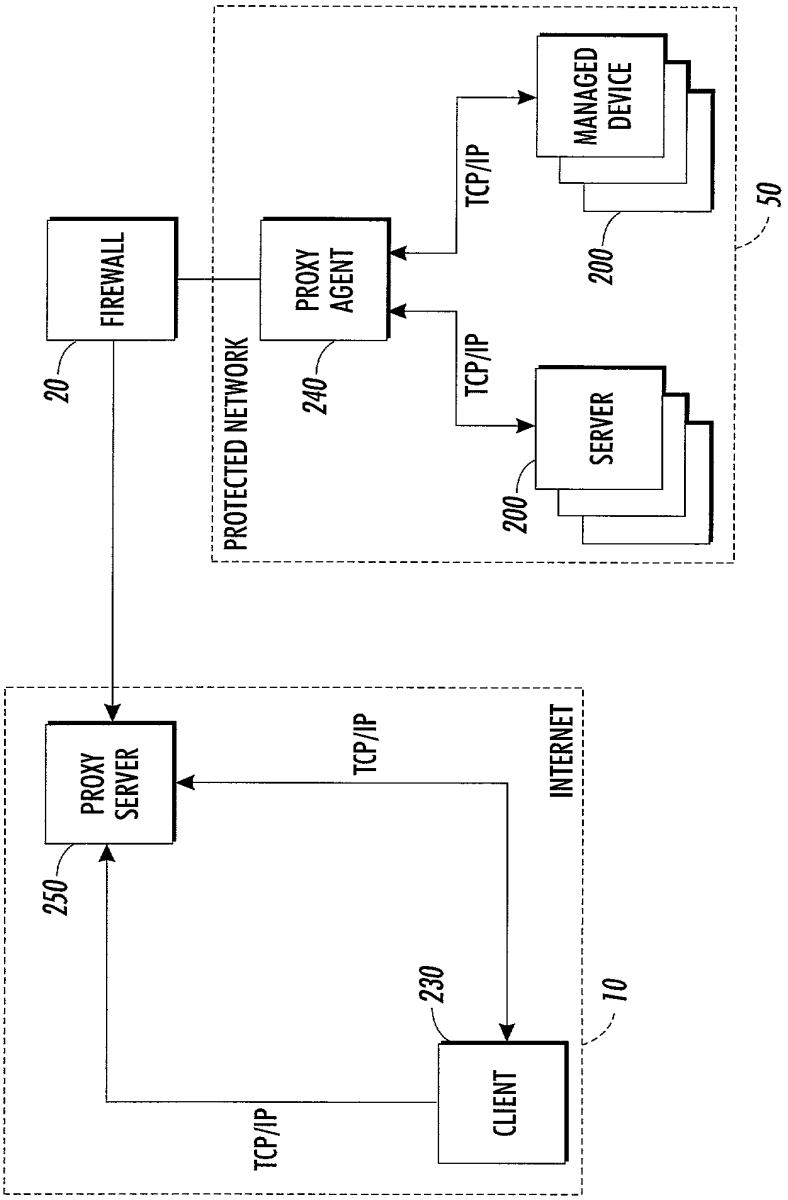
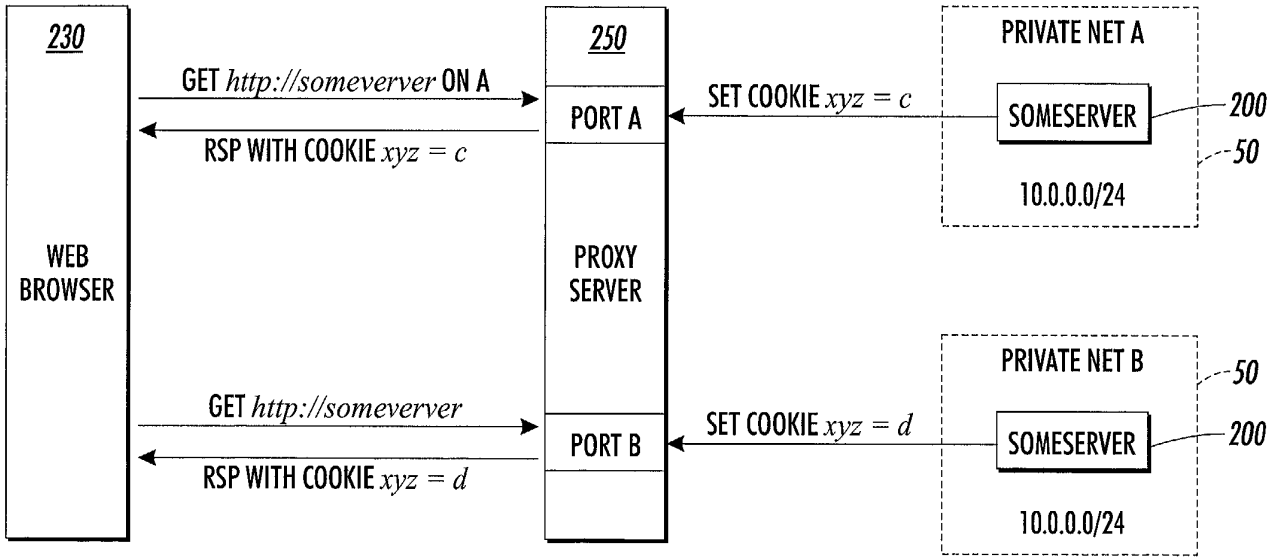

INTERNET
10
PROXY SERVER
250
TCP/IP
CLIENT
230
TCP/IP
FIREWALL
20
PROTECTED NETWORK
PROXY AGENT
240
TCP/IP
TCP/IP
SERVER
200
MANAGED DEVICE
200
50

FIG. 3

BROWSER IS CONFIGURED TO USE PROXY PORT A TO GET AT NETWORK A, THEN RECONFIGURED TO USE PORT B TO GET AT NETWORK B.

PROXY SERVER DETERMINES WHICH NETWORK A REQUEST IS SENT TO, E.G. USING A PORT BINDING SCHEME. THE BROWSER CAN BE CONFIGURED TO USE DIFFERENT PROXY PORTS.



BROWSER CANNOT DISTINGUISH URL *http://someserver* ON A FROM URL *http://someserver* ON B. HENCE COOKIE *xyz=d* FROM B OVERWRITES COOKIE *xyz=c* FROM A, SINCE IT IS RECEIVED LAST.

FIG. 4

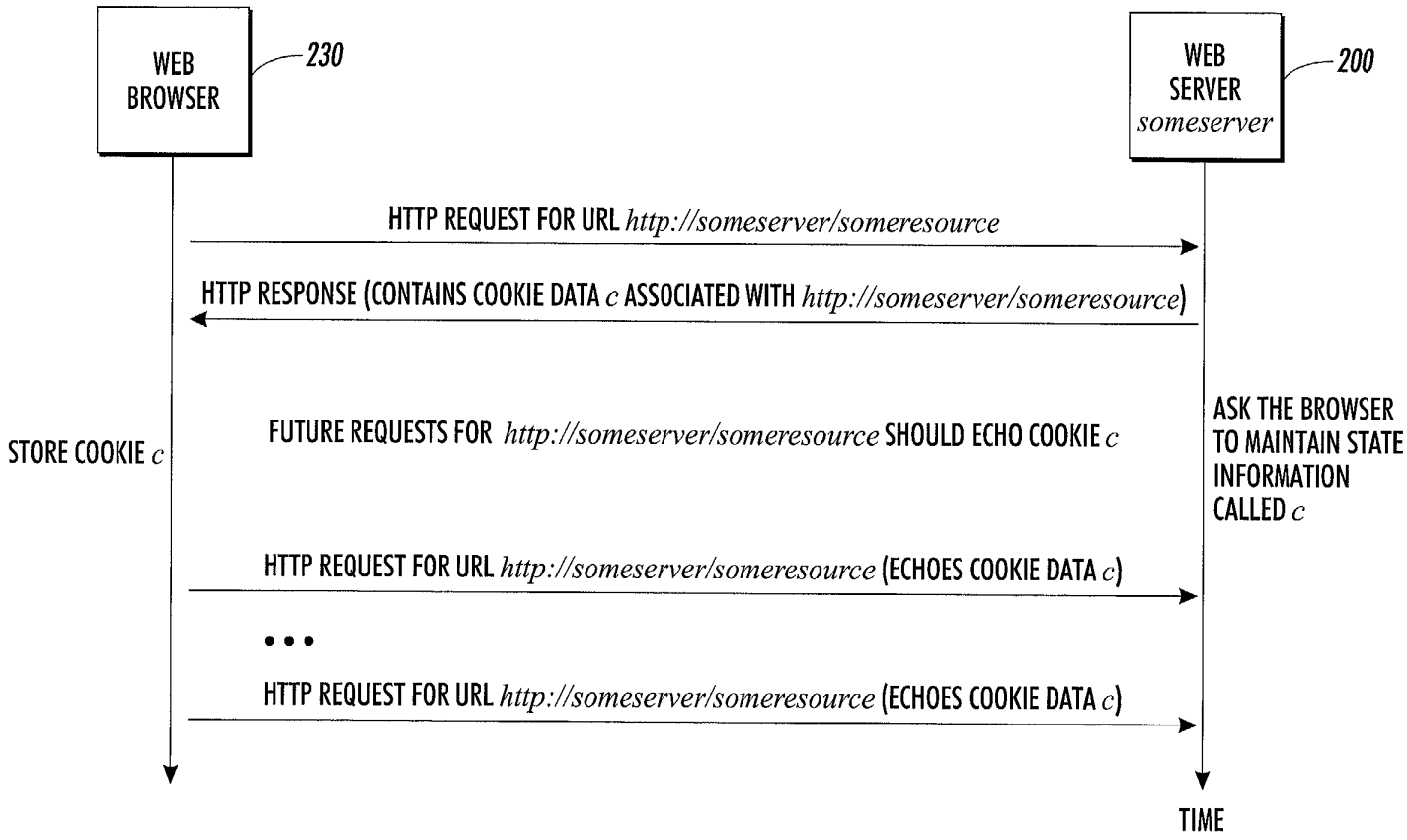

WEB BROWSER
230
WEB SERVER someserver
200
HTTP REQUEST FOR URL http://someserver/someresource
HTTP RESPONSE (CONTAINS COOKIE DATA c ASSOCIATED WITH http://someserver/someresource)
STORE COOKIE c
FUTURE REQUESTS FOR http://someserver/someresource SHOULD ECHO COOKIE c
ASK THE BROWSER TO MAINTAIN STATE INFORMATION CALLED c
HTTP REQUEST FOR URL http://someserver/someresource (ECHOES COOKIE DATA c)
• • •
HTTP REQUEST FOR URL http://someserver/someresource (ECHOES COOKIE DATA c)
TIME

FIG. 5

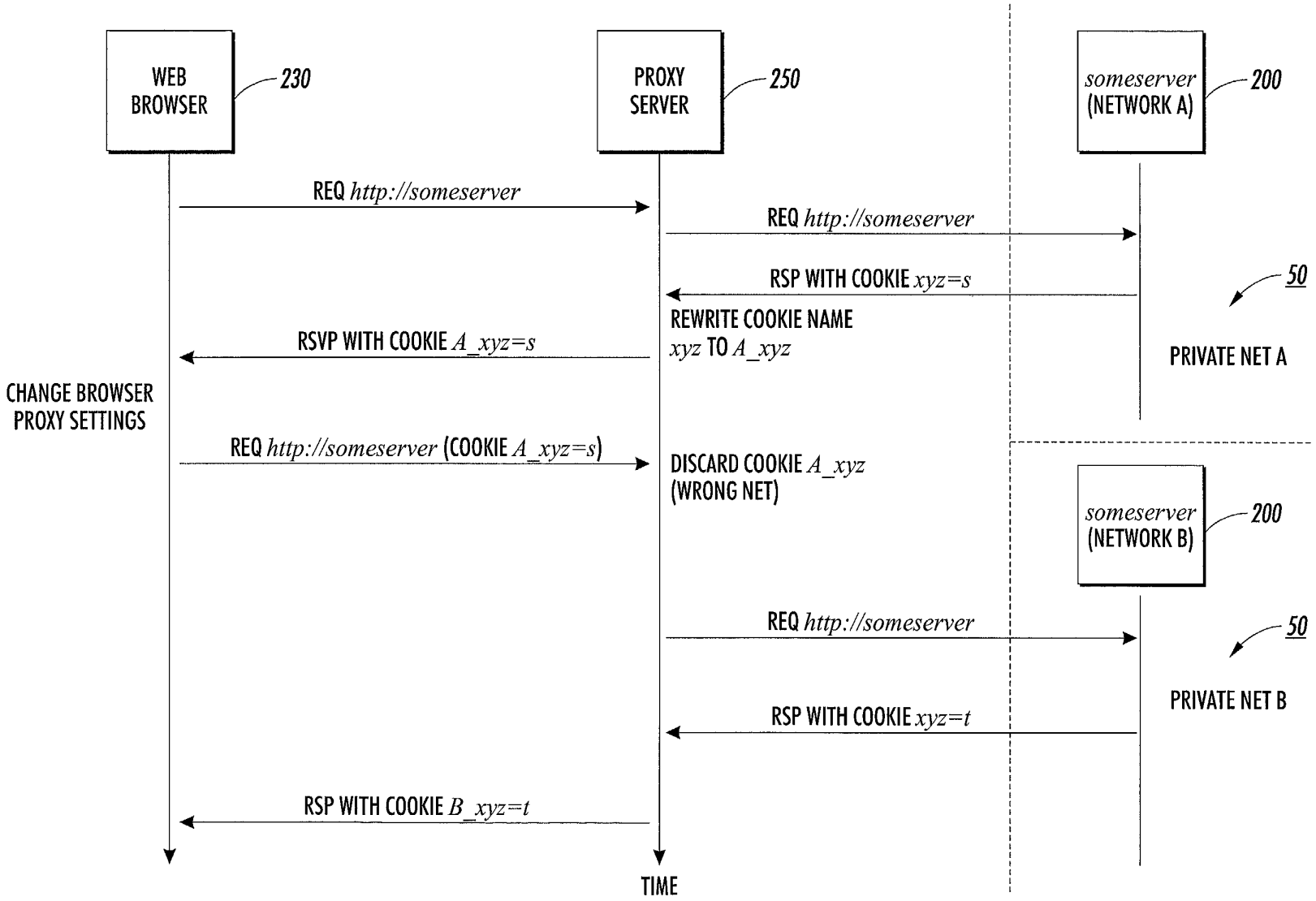

WEB BROWSER
230
PROXY SERVER
250
someserver (NETWORK A)
200
REQ http://someserver
REQ http://someserver
RSP WITH COOKIE xyz=s
50
REWRITE COOKIE NAME xyz TO A_xyz
RSVP WITH COOKIE A_xyz=s
PRIVATE NET A
CHANGE BROWSER PROXY SETTINGS
REQ http://someserver (COOKIE A_xyz=s)
DISCARD COOKIE A_xyz (WRONG NET)
someserver (NETWORK B)
200
REQ http://someserver
50
PRIVATE NET B
RSP WITH COOKIE xyz=t
RSP WITH COOKIE B_xyz=t
TIME

FIG. 6